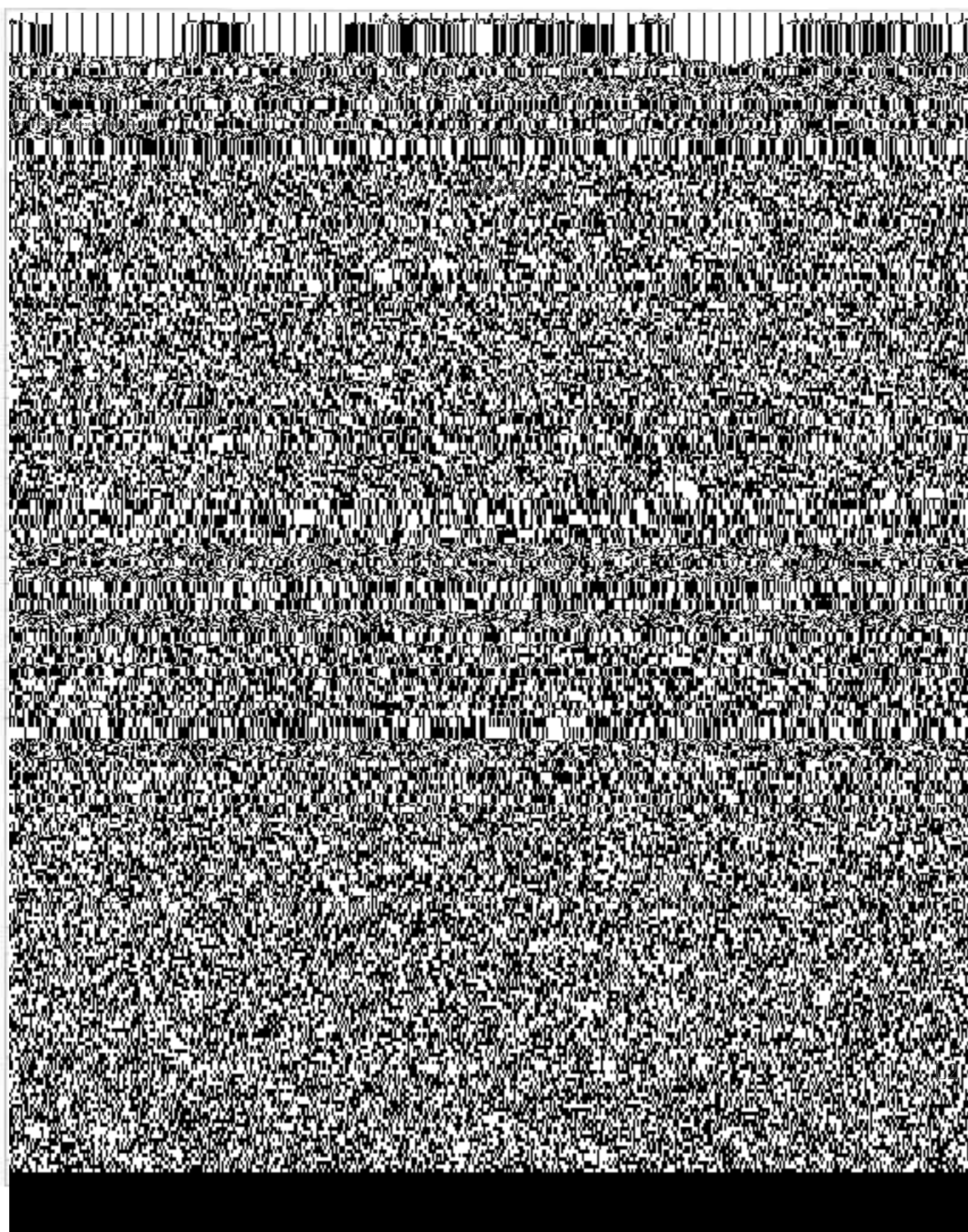




14	A sample of 400 items is taken from a population whose standard deviation is 10 . The mean of the sample is 40 . Test whether the sample has come from a population with mean 38 . Also calculate 95 % confidence interval for the population.	10M	2	L2												
15	Find a positive root of $x^3 - x - 1 = 0$ correct to two decimal places by Bisection method.	10M	3	L2												
	OR															
16	Find a real root for $x \tan x + 1 = 0$ using Newton Raphson method	10M	3	L2												
17	Assuming that the following values of 'y' belong to a polynomial of degree 4, compute the next three values use Newton's interpolation formula. <table><tr><td>x</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>y</td><td>1</td><td>-1</td><td>1</td><td>-1</td><td>1</td></tr></table>	x	0	1	2	3	4	y	1	-1	1	-1	1	10M	4	L2
x	0	1	2	3	4											
y	1	-1	1	-1	1											
	OR															
18	Evaluate $\int_0^1 \frac{1}{1+x} dx$ (i)by Trapezoidal rule and Simpson's 1/3 rule (ii)using Simpson's 3/8 rule	10M	4	L2												
19	If $u + v = e^x (\cos y + \sin y)$ then find the analytic function $f(z)$	10M	5	L2												
	OR															
20	State and prove Cauchy's integral theorem.	10M	5	L2												